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FILE 'MEDLINE' ENTERED AT 15:10:02 ON 24 SEP 2007

L1 75 SEA PLU=ON ELECTROPORAT? AND SIRNA
 D TI 40-75

L2 2 SEA PLU=ON L1 AND ADIPOCYTE
 D BIB AB 1 2

=> s electroporat? and ?farad

5529 ELECTROPORAT?

51 ?FARAD

L1 1 ELECTROPORAT? AND ?FARAD

=> d bib ab

L1 ANSWER 1 OF 1 MEDLINE on STN

AN 91273972 MEDLINE <<LOGINID::20070924>>

DN PubMed ID: 2054182

TI Electroporation of bovine spermatozoa to carry foreign DNA in oocytes.

AU Gagne M B; Pothier F; Sirard M A

CS Unite de Recherche en Ontogenie et Reproduction, CHUL Research Center, Quebec, Canada.

SO Molecular reproduction and development, (1991 May) Vol. 29, No. 1, pp. 6-15.

Journal code: 8903333. ISSN: 1040-452X.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)

LA English

FS Priority Journals

EM 199107

ED Entered STN: 18 Aug 1991

Last Updated on STN: 18 Aug 1991

Entered Medline: 31 Jul 1991

AB In the present study, electroporation was used to test the ability of spermatozoa to carry foreign DNA into the bovine oocytes. Frozen-thawed bovine spermatozoa (10(7)/ml) were electroporated using six different combinations of voltage (500, 1,000, or 1,500 V) and capacitance (1 or 25 microFarads) in the presence of 1 mg/ml of plasmid pRGH527. The portions of plasmids retained by sperm cells after three washings (stable for ten washings) were 4.3, 5.5, 5.1, 6.0, 6.8, and 5.8% for 1 microFarad, 500, 1,000, and 1,500 V and 25 microFarads, 500, 1,000, and 1,500 V, respectively. Nonelectroporated cells have retained only 1% of plasmids. In the same experiment, electroporated spermatozoa were acrosome reacted by treatment with ionophore A23187 to evaluate the fraction of marked plasmids joined at the acrosomal membrane. The results show that 3.5, 5.0, 4.4, 5.0, 6.3, and 4.4% remain tied to the ionophore-treated sperm. Only 0.7% of plasmid was retained after removal of the acrosome of nonelectroporated cells. Acrosome reaction was not significantly induced by the electrical field (EF) (P less than 0.005). EF decrease motility significantly for greater than 100 V in 0.3 M mannitol (M) and mannitol-TALP (MT) (1/1) media and greater than or equal to 500 V (P less than 0.05) in TALP medium. The retained plasmid rate was compared between TALP medium M and MT media and resulted in a percentage of 1.0, 2.5, 6.5 at 1 microFarads, 100 V, and 0.9, 3.8, and 3.8 at 25 microFarads, 100 V in TALP, MT, and M medium, respectively. Sperm cells electroporated at 1 microFarad, 500 or 1,000 V, 25 microFarad, 500 V or 1,000 in TALP medium hold plasmids in proportion of 5.2, 5.4, 7.4, and 6.0%. Electroporation above 100 V in M and MT killed the cells. In a part of this experiment, spermatozoa electroporated in the presence of radiolabeled plasmids have been treated with DNase I and results revealed that 35, 28, 54, 58, and 3% of marked DNA remains in sperm cells following digestion after electroporation in TALP (1,000 V, 1 and 25 microFarads), M medium (100 V, 1 and 25 microFarads), and control, respectively. Using in vitro matured bovine oocytes, the electroporation conditions were correlated with the fertilization rate (85% for control and 55% for electroporated spermatozoa). Autoradiography of embryos following fertilization indicated the presence of plasmids in the cytoplasm and in the zona pellucida. (ABSTRACT TRUNCATED

AT 400 WORDS)

=> s electroporat? and ?farads

5529 ELECTROPORAT?

23 ?FARADS

L2 2 ELECTROPORAT? AND ?FARADS

=> d bib ab 1 2

L2 ANSWER 1 OF 2 MEDLINE on STN

AN 95393119 MEDLINE <<LOGINID::20070924>>

DN PubMed ID: 7664017

TI Optimisation of gene transfer into vascular endothelial cells using electroporation.

AU Kotnis R A; Thompson M M; Eady S L; Budd J S; Bell P R; James R F

CS Department of Surgery, University of Leicester, Leicester Royal Infirmary, U.K.

SO European journal of vascular and endovascular surgery : the official journal of the European Society for Vascular Surgery, (1995 Jan) Vol. 9, No. 1, pp. 71-9.

Journal code: 9512728. ISSN: 1078-5884.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)

LA English

FS Priority Journals

EM 199510

ED Entered STN: 20 Oct 1995

Last Updated on STN: 20 Oct 1995

Entered Medline: 12 Oct 1995

AB OBJECTIVES: We have examined the conditions required to obtain optimum transfection efficiencies for human umbilical vein endothelial cells by transduction with a plasmid conferring neomycin resistance. MATERIALS AND METHODS: Preliminary studies examined the effects of electric discharges using the Biorad Gene Pulser on endothelial cells. Post-electroporation, there was a significant decrease in cell survival with increasing voltages (100-400 volts; $p = 0.03$), capacitances [125-960 microFarads (microF); $p = 0.02$], number of electric pulses (1-2; $p = 0.03$) and decreasing cell concentrations ($p = 0.01$). The optimal cell concentration was 3×10^6 cells/ml. Transfection studies utilised the neomycin resistance expressing plasmid, pTCF; transfectants were selected with the neomycin analogue G-148. RESULTS: Electro-transfection was optimised with increasing voltages ($p = 0.02$) and capacitances ($p = 0.01$) using a single pulse. Optimal transfection was obtained using 400 volts with a capacitance of 960 microF using a single pulse; the median transfection efficiency was 10%. Transduced endothelial cells stably expressed the plasmid for 12 days and at least two cell passages. CONCLUSIONS: The results indicate that endothelial cells can be efficiently transduced by electroporation to stably express an introduced gene. This may have important implications in vascular surgery.

L2 ANSWER 2 OF 2 MEDLINE on STN

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DN PubMed ID: 2054182

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AB In the present study, electroporation was used to test the ability of spermatozoa to carry foreign DNA into the bovine oocytes. Frozen-thawed bovine spermatozoa (10(7)/ml) were electroporated using six different combinations of voltage (500, 1,000, or 1,500 V) and capacitance (1 or 25 microFarads) in the presence of 1 mg/ml of plasmid pRGH527. The portions of plasmids retained by sperm cells after three washings (stable for ten washings) were 4.3, 5.5, 5.1, 6.0, 6.8, and 5.8% for 1 microFarad, 500, 1,000, and 1,500 V and 25 microFarads, 500, 1,000, and 1,500 V, respectively. Nonelectroporated cells have retained only 1% of plasmids. In the same experiment, electroporated spermatozoa were acrosome reacted by treatment with ionophore A23187 to evaluate the fraction of marked plasmids joined at the acrosomal membrane. The results show that 3.5, 5.0, 4.4, 5.0, 6.3, and 4.4% remain tied to the ionophore-treated sperm. Only 0.7% of plasmid was retained after removal of the acrosome of nonelectroporated cells. Acrosome reaction was not significantly induced by the electrical field (EF) (P less than 0.005). EF decrease motility significantly for greater than 100 V in 0.3 M mannitol (M) and mannitol-TALP (MT) (1/1) media and greater than or equal to 500 V (P less than 0.05) in TALP medium. The retained plasmid rate was compared between TALP medium M and MT media and resulted in a percentage of 1.0, 2.5, 6.5 at 1 microFarads, 100 V, and 0.9, 3.8, and 3.8 at 25 microFarads, 100 V in TALP, MT, and M medium, respectively. Sperm cells electroporated at 1 microFarad, 500 or 1,000 V, 25 microFarad, 500 V or 1,000 in TALP medium hold plasmids in proportion of 5.2, 5.4, 7.4, and 6.0%. Electroporation above 100 V in M and MT killed the cells. In a part of this experiment, spermatozoa electroporated in the presence of radiolabeled plasmids have been treated with DNase I and results revealed that 35, 28, 54, 58, and 3% of marked DNA remains in sperm cells following digestion after electroporation in TALP (1,000 V, 1 and 25 microFarads), M medium (100 V, 1 and 25 microFarads), and control, respectively. Using in vitro matured bovine oocytes, the electroporation conditions were correlated with the fertilization rate (85% for control and 55% for electroporated spermatozoa). Autoradiography of embryos following fertilization indicated the presence of plasmids in the cytoplasm and in the zona pellucida. (ABSTRACT TRUNCATED AT 400 WORDS)